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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/717,403	11/22/2000	Minoru Izumiya	334615/99	9444
30743	7590	10/04/2004	EXAMINER	
WHITHAM, CURTIS & CHRISTOFFERSON, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			NGUYEN, ALAN V	
			ART UNIT	PAPER NUMBER
			2662	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/717,403

Applicant(s)

IZUMIYA, MINORU

Examiner

Alan Nguyen

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8 and 10-14 is/are rejected.
- 7) ☒ Claim(s) 3 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-8, and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finley et al (US 5,060,227) in view of Drupsteen (US 4,535,451) hereafter Finley.

Regarding **claims 1, 7, and 13** Finley discloses an apparatus to interface circuits of various coding that corresponds to the mu-law to A-law translating equipment of the application, which comprises:

In the invention described by the Finley reference, the transceiver 222, cross point 228, and serial-parallel converter 236 of figure 2 in combination receives a mu-law/A-law PCM signal and outputs parallel mu-law/A-law signals, and corresponds to the receiving circuit of the present application. ROM 238 of Finley carries out the mu-law to A-law and A-law to mu-law conversions and corresponds to the converter of the application. See col 4 lines 61-66. Multiplexer 248 of Finley receives parallel A-law/mu-law PCM signals and outputs a serial A-law/mu-law PCM signal. This corresponds to the signal output circuit of the application.

Finley, however, fails to disclose the use of a multiplexer and demultiplexer to accepts a plurality of parallel PCM signals and sends a serial PCM signal to the converter.

Drupsteen discloses a TDM multiplex system for transmitting a plurality of PCM signals into a single composite signal to be fed over a common path. In the invention described by the Drupsteen reference, the multiplexer 7 and demultiplexer 13 in figure 1 correspond to the multiplexer and demultiplexer of the application. See col 4 lines 55-62 and col 5 lines 20-26 of Drupsteen.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Finley's apparatus to incorporate a multiplexer/demultiplexer to accept a plurality of mu-law/A-law PCM signals to be fed through a single common path. The motivation is a simplified and economical translating system that utilizes less converters. Having multiplexed aggregate signal containing the plurality of PCM signals would only require a single mu-law/A-law converter.

Regarding **claims 2, 8, and 14** Finley discloses a transceiver that receives and outputs an equal amount PCM signals. This corresponds as to having an equal amount of receiving circuits to output circuits in the application. See col 4 lines 53-67 of Finley.

Regarding **claims 4, 5, 10, and 11** the multiplexer 248 of Finley receives parallel A-law/mu-law PCM signals and outputs a serial A-law/mu-law PCM signal. This

corresponds to the signal output circuit of the application. Finley, however, fails to expressly disclose and having a frame inserter that inserts the frame bit in to the serial signal according to a reference frame pulse. Drupsteen further discloses in his digital multiplex system a clock distributor 20 used a reference signal for synchronization. Frame alignment bits are inserted. See col 9. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify Finley's apparatus to maintain synchronization of the plurality of multiplexed PCM signals through framing bits, as taught by Drupsteen. The motivation is a simplified and economical translating system that utilizes less converters.

Regarding **claims 6 and 12** Finley discloses a driver that feeds the inputted data toward the switching network. This corresponds to the line driver in the signal output circuit that outputs a serial mu-law/A-law PCM signal. See col 5 lines 1-10 of Finley.

Allowable Subject Matter

3. **Claims 3 and 9** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding **claims 3 and 9** the cited references taken individually or in combination fails to particularly disclose the combination of where the line receiver converts the mu-law/A-law PCM signal from bipolar to unipolar; a frame buffer that temporarily stores the unipolar signal; a frame detector that detects the frame leading art of the unipolar signal and generates an

address reset pulse synchronized with the frame leading position for writing to the frame buffer; a frame position comparator that measures the lag time in position of a reference frame pulse and address reset pulse for writing to the frame buffer and generates an address reset pulse for reading from the frame buffer..

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to show the state of the art with respect to mu-law to A-law translators and multiplexing systems:

US Patent (6,747,988) to Jordan et al

US Patent (4,595,907) to Huffman et al

US Patent (6,240,179) to Balatoni et al

US Patent (6,553,026) to Aihara

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Nguyen whose telephone number is 571-272-3089. The examiner can normally be reached on 9am-6pm ET, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AVN
September 30, 2004



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